wherein the client computer includes

means for transmitting a map request to the map server computer to request transfer to the client computer of the map data and the coordinate data associated with the area represented by the map,

means for displaying an image of the map on the visual display unit, and

means for transmitting an information request to the information server computer to identify places of interest known to it and lying within the geographical area,

wherein the information server computer includes means for transmitting to the client computer in response to the information request the data representative of at least one place of interest within the geographical area, and

wherein the client computer includes means for displaying said data associated with the place of interest on the visual display unit.

The order in which the map server and information server are mentioned above is not meant to imply any particular restriction as to the order in which the servers are accessed by the client. As with any Web search, either server could be accessed first. A link provided initially by the information server may link directly to a map server in accordance with the invention, for example.

In a preferred embodiment, a client device which has the capabilities of both a cellular telephone and a Web browser may pass the names and/or geographical coordinates of its surrounding cellular base stations to the map and/or overlay server computers. Such location information may be utilised by the map server computer to deliver a map of the current location of the client device, and/or by the overlay server computer to identify facilities near to the current location of the client device.

The information relating to the place of interest may be superimposed or overlaid on the map image at a position on the image corresponding to the location of the place of interest on the map. Thus, for example, the information (or "overlay") server may contain details of, for example, hotels, restaurants, shops or the like, associated with the geographical coordinates of each location. The map server contains map data, including coordinate data representing the spatial coordinates of at least one point on the area represented by the map. Further data is also required, so as to enable correlation of points on the map with their corresponding geographical location. Such further data may be, for example, the coordinates of an additional point on the map. Preferably, the map's scale and overall dimensions are included. Alternatively, coordinates of two opposite corners of the map are included. As a further alternative, the said further data may include a simple scale factor and a direction factor.

In a further preferred embodiment, the map server may be provided with a list of categories of places of interest, together with details of the respective information servers on which further information about each category is located. Each of these categories may be associated with a respective icon on the VDU of the client. In an alternative embodiment, such a list of categories may be provided on a further server.

In an embodiment, initially, the client computer may display the map as a simple outline, with no superimposed icons. When one of the "category" icons is activated (for example, by clicking with a mouse or other pointing device), the client computer formulates a request to the appropriate information server for the information server to supply a list of locations known to it which lie within the rectangle defined by the said coordinates. The information supplied by the information server may include textual, graphical, sound, video or other information, and may include additional hypertext links to other locations or facilities on the Web, which themselves may include textual, graphical, sound, video or other information.

It is a particular advantage of the system that the various information servers do not need to have knowledge of the map server software provided on the map server, and vice versa. All that is required in order for the relevant data to be supplied to the client computer is a consistent protocol for providing the coordinates of the various places of interest.

Two or more information servers can provide "places of interest" data independently, without either having any knowledge of the other. For example, one server may provide locations of hotels, a second may provide locations of restaurants, and a third may provide locations of print shops or the like. All of the data (for example, hypertext links, icons etc.) can be overlaid on a single map on the screen of the client computer with hypertext links provided to the various source data on the different overlay or information server computers.

In a particularly preferred embodiment, the client computer may include locating means for establishing the current geographical location of the client computer. This may be by means of a satellite system such as the Global Positioning System. The client computer preferably includes means for passing the said location information to the information server computer. Such location information may be utilised by the information server computer to identify facilities within a given radius of the current geographical location of the client computer. This facility makes the method of the invention of particular usefulness to portable computer systems.

The client computer may include means for scrolling or zooming the map image, to display an image of a different geographical area, and means for varying the displayed data relating to the places of interest, so as to take account of the change in the display geographical area. This may take the form simply of changing the position of the icon or hypertext data relating to particular points of interest, so as to take account of the change in the display geographical area. Preferably, however, the client computer may include means for formulating a further request to an information server, to identify places of interest lying within the new geographical area.

BRIEF DESCRIPTION OF THE DRAWINGS

An embodiment of the present invention will now be described by way of example with reference to the accompanying drawings, in which:

FIG. **1** is a graphical representation of a client screen, showing a simple map with "category" icons;

FIG. **2** shows the same map after retrieval of information relating to various places of interest (in this case, hotels and restaurants); and,

FIG. **3** is a schematic representation of information flow between the map and overlay servers and the client computer.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

Referring to FIG. **1**, the screen **1** of a client computer **10** is shown, as generated by an HTML document.

The screen **1** contains three windows or frames: a "map" frame **2**, a "navigation" frame **3** containing buttons **4** for